



Supplementary note to an analysis of the income from energy crops in relation to other crops

(in FOI Udredning 2011/11)

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Supplementary note to note of 27 July 2011 provided by the Institute of Food and Resource Economics (University of Copenhagen) entitled “Income from energy crops in relation to other crops”

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Background

In July 2011 the Institute of Food and Resource Economics conducted an analysis for The Danish Agrifish Agency concerning the expected net return from cultivating energy crops compared to the net return from cultivating agricultural crops on the same types of land. The analysis was to be included in considerations on granting support for production of perennial energy crops.

In a request (of December 7, 2011) The Danish Agrifish Agency asked for a more detailed specification of the calculations in table 1 in the above mentioned note “Income from energy crops in relation to other crops”, in which the annuitized costs of establishing perennial energy crops are specified separately. This has been done in table 1 below, where the costs of establishing the crop have been extracted from the cost components “Unit costs” and “Machinery and labour costs”.

The establishment costs (which include costs of soil preparation, chemical weed control, start fertilizer, cuttings and planting) amount to DKK 13,185 per hectare. As shown in the table this corresponds to annuitized establishment costs of DKK 976 per hectare per year. The costs categories “Unit costs” and “Machinery and labour costs” have been reduced by the same amount in total.

Table 1. Calculated land rents when cultivating energy willow (short-rotation coppice) on different soil types, 2009 prices, DKK/ha/year (annuitized)

	Poor sandy soil	Good sandy soil	Sandy soil average	Clay soil
Dry matter, tonnes per ha/year	8	10	9	14
Establishment costs*	976	976	976	976
Unit costs, operating costs	1.099	1.099	1.099	1.099
Machinery and labour costs, operating costs	325	325	325	325
Harvest and transport to power plant	3.352	3.450	3.401	3.640
Total cultivation costs	5.752	5.850	5.801	6.040
Value of willow chips	5.440	6.800	6.120	9.520
GM/land rent before grant	-313	950	319	3.480
Value of establishment grant (DKK 4,200 per ha)	311	311	311	311
GM/land rent including grant	-2	1.261	630	3.791

* Soil preparation, chemical weed control, start fertilizer, cuttings and planting.

Source: Dubgaard et al. (2009).